

## II. CLAIM AMENDMENTS

1. (Cancelled)

2. (Currently Amended) A method according to claim 121, further comprising ~~characterized in that if an IP datagram to be encrypted contains a TCP acknowledgment, and~~ placing an indication of the acknowledgment is placed into the header of said datagram, if an IP datagram to be encrypted contains a TCP acknowledgment.

3. (Currently Amended) A method according to claim 121, wherein ~~characterized in that~~ said placing of at least an indication into the header of said datagram comprises placing a copy of at least the information on which the processing is based into the header of said datagram.

4. (Currently Amended) A method according to claim 3, wherein ~~characterized in that~~ said placing of at least an indication into the header of said datagram comprises placing of all information of a TCP header into the header of said datagram.

5. (Currently Amended) A method according to claim 3, further comprising placing ~~characterized in that~~ a copy of a TCP acknowledgement number ~~is placed~~ into the header of said datagram.

6. (Currently Amended) A method according to claim 3, further comprising placing ~~characterized in that~~ a copy of the contents of the window size field of a TCP header ~~is placed~~ into the header of said datagram.

7. (Currently Amended) A method according to claim 124, wherein said placing comprises placing ~~characterized in that if said datagram is an Ipv4 datagram,~~ said at least an indication is ~~placed~~ in an options field of said datagram, if said datagram is an Ipv4 datagram.

8. (Currently Amended) A method according to claim 124, wherein said placing comprises placing ~~characterized in that if said datagram is an Ipv6 datagram,~~ said at least an indication is ~~placed~~ in an extension header in said datagram, if said datagram is an Ipv4 datagram.

9. (Currently Amended) A method according to claim 3, further comprising in which method

-generating IP datagrams by a source network element ~~generates~~ IP datagrams,

~~-an intermediate network element forwards~~ forwarding the IP datagrams to a destination network element by an intermediate network element, and

~~-the destination network element receives~~ receiving the IP datagrams by the destination network element, and

~~characterized in that~~

~~the intermediate network element modifies~~ modifying said copy  
of the information on which the processing is based by said  
intermediate network element.

10. (Currently Amended) A method according to claim 9, further  
comprising ~~characterized in that~~

using, by said destination network element, ~~uses of~~ said  
modified copy of the information instead of the encrypted  
version of the information carried as the payload of the IP  
datagram.

11. (Cancelled)

12. (New) A method for processing IP traffic based on the  
information within TCP headers carried in IP datagrams, said  
method comprising:

encrypting at least some of the IP-datagrams of the traffic,

checking if the IP datagram to be encrypted contains TCP  
header information used as a basis for the processing at  
least an indication of the information in which the  
processing is based,

placing said indication into the header of said datagram,

using said indication in congestion control on a TCP/IP network, and

delaying the transmission of an encrypted IP datagram by a network element if said encrypted IP datagram comprises an indication of a TCP acknowledgment and said network element detects congestion in the network.

13. (New) A network element, arranged to process IP traffic based in the information within TCP headers carried in IP datagrams, said element comprising:

encrypting means arranged to encrypt at least some of the IP-datagrams of the traffic,

checking means arranged to check if the IP datagram to be encrypted contains TCP header information used as a basis for the processing at least an indication of the information in which the processing is based,

placing means arranged to place said indication into the header of said datagram,

control means arranged to be used in congestion control in a TCP IP network, and

delaying means arranged to delay the transmission of an encrypted IP datagram by said network element if said encrypted IP datagram comprises an indication of a TCP acknowledgement and said network element detects congestion in the network.

14. (New) A network system, for processing IP traffic based on the information within TCP headers carried in IP datagrams, comprising at least a network element according to claim 14.